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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/896,895	06/29/2001	Tao Zhang	S01.12-0787	1539

7590 07/02/2003

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EXAMINER

SNIEZEK, ANDREW L

ART UNIT

PAPER NUMBER

2651

DATE MAILED: 07/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/896,895

Applicant(s)

ZHANG ET AL.

Examiner

Andrew L. Sniezek

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 9, 11, 12, 15-20 and 25 is/are rejected.
- 7) ☒ Claim(s) 6-8, 10, 13, 14, 21-24 and 26 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 September 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 6/29/01 has been considered.

Drawings

2. The corrected or substitute drawings were received on 9/24/01. These drawings are objected to since Figure 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance. Note page 5 of the specification.

Claim Objections

3. Claims 7 and 23 are objected to because of the following informalities: Claims 7 and 23 set forth "the non-repeatable runout compensator" and are dependent on claims 1 and 17 respectively. Claims 1 and 17 do not support such a term. Examiner believes "non-repeatable runout compensator" should be replaced with - - rotational vibration compensator- -. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-3, 9, 11, 12, 15-19 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicants admitted prior art (figure 2) in view of Ottesen et al. ('982).

Applicants admitted prior art (figure 2) teaches servo loop for a disk storage system which as discussed in the specification includes a voice coil motor, a servo sensor a servo controller, a drive signal generator and a vibration damping circuit as set forth in claim 1. Claim 1 additionally sets forth a real time adaptive loop shaping circuit that is use to adjust at least one parameter of the transfer function. Although not taught by the admitted prior art is well known as taught by Ottesen et al. elements (120, 122 and 128) to reduce vibrations in signals to drive the actuator. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate such features in applicant's admitted prior art for the same purpose of reducing vibration in the driving signal. The limitations of claim 2 directed to a notch filter is taught by element (214) of the prior art and also by element (112) of Ottesen et al., which is used for similar purposes. As seen from element (128) of Ottesen gain coefficients are used

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to adjust notch filter (112). The limitations of claim 9 are satisfied by Ottesen et al. column 9, lines 19-27 and would be combined with the prior art for reasons already stated and would take into account of several frequencies. The limitations of claims 11, 12 and 15 although written in method language set forth no more than that already discussed and is taught by the operation of the combination of references as discussed above. Claim 16 written in means plus function terms and is in view of the specification is determined to be a filter adjusting arrangement. These limitations along with claims 17-19 and 25 are deemed to set forth no more than already discussed with respect to the combination of applicants admitted prior art and Ottesen.

7. Claims 4 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (figure 2) and Ottesen et al. as applied to claims 1-3, 9, 11, 12, 15-19 and 25 above, and further in view of Sidman et al.

The teachings of applicants admitted prior art and Ottesen et al. are discussed above and incorporated herein. Claims 4 and 20 set forth the use of a band pass filter. Although not taught by applicants admitted prior art of Ottesen et al. is well known as taught by Sidman et al. to be used in similar arrangements for detecting resonance in a storage system. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate such band pass filters in the arrangement of applicants admitted prior art and Ottesen et al. for similar purposes.

Allowable Subject Matter

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8. Claims 5-8, 10, 13-14 21-24 and 26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The claimed use of a non-repeatable runout compensator as set forth in claims 5, 6, 13, 21, 22 and a rotational vibration compensator set forth in claims 7, 8, 14, 23, 24 in an arrangement as set forth in the respective independent claims is neither taught by nor an obvious variation of the art of record. The claimed adjustment of the speed of adaptation as set forth in claims 10/1 and 26/17/16 is neither taught by nor an obvious variation of the art of record.

Conclusion

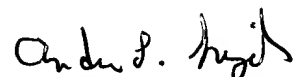
9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sri-Jayantha et al., Liu, Hsin et al. are cited of interest.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew L. Snizek whose telephone number is 703-308-1602. The examiner can normally be reached on Mon.-Fri..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Hudspeth can be reached on 703-305-4700. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-0377.


Andrew L. Sniezek
Primary Examiner
Art Unit 2651

A.L.S.
June 29, 2003